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Lawn Care

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The home lawn is source of pride as well as enjoyment for home owners. A lawn tells others about the people living at that address. A good lawn generally reflects the pride of the family; if the lawn is well kept, chances are that the home will be too.

Besides beauty, a good lawn has a cash value far in excess of the cost involved in its care, so your present lawn is worth a little attention and care if you may be moving in the future. A well kept lawn and yard can significantly increase the value of the house.

A well maintained lawn has a cooling effect during summer. Good lawns are also effective dust traps. They deflect and absorb sound, reduce noise pollution, shelter the soil, prevent erosion, and reduce injury to people and others.

Lawn work is worth the effort. You do not need to be an expert greenskeeper, but you do need to use good basic maintenance practices.

Mowing . . .

Without proper mowing, all other maintenance (fertilizing, watering, etc.) does little for the appearance and longevity of a lawn. Generally, properly mowed lawns are vigorous enough to resist disease and weed infestation.

How often you mow is important. It depends on such factors as soil fertility, grass species, maintenance level and time of year.

As a general rule, do not remove more than a third of the leaf surface at any one mowing. If you are going to use a mulching mower or a regular mower and recycle your clippings on the lawn, you may need to mow a bit more frequently than if clippings are caught.

Mow in a different direction each time. This helps the grass blades to remain upright, producing an even cut. Continuous mowing in the same direction, especially with a riding mower, increases soil compaction. Ridges in the lawn will form over time.

The first mowing in spring should be as soon as possible after growth has started. Lower the cutting height to about 1 1/2 inches and catch or remove all the clippings. This serves to remove old, discolored grass blades and expose the plants to sunlight, air, and warmth for early growth. Your lawn will green up more quickly.

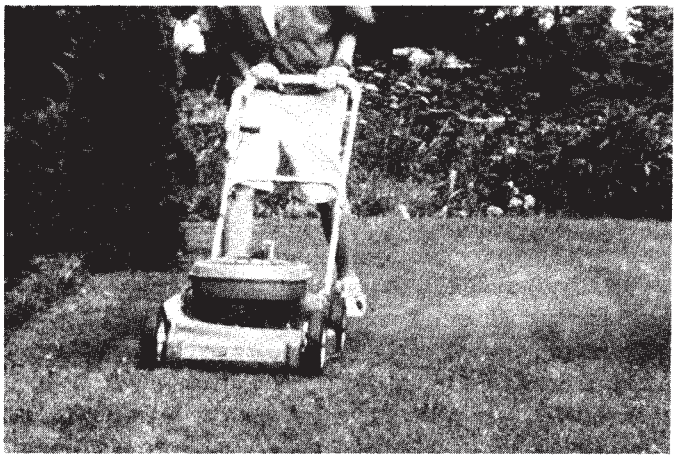
After the first mowing, raise the cutting height to 2 to 3 inches and cut at this height during the spring. During July and August, raise the mowing height to 2 1/2 to 3 1/2 inches. This provides shade to the ground and will help to reduce stress from hot, dry weather. Also, the increased amount of leaf tissue will supply additional carbohydrates to the crown.

When the lawn is mowed high in summer, it can better compete with weeds and will require less chemical weed control. Less water is lost from the soil surface, and the development of a deeper root system is encouraged, which improves summer drought resistance and winter survival.

If grass is mowed lower than the recommended height, the lawn is subject to weed invasion (such as crabgrass) and will encourage development of a shallow root system, which makes it more susceptible to drought and winter injury.

It is not the height at which a lawn is cut that makes a lawn attractive; it is the frequency of mowing. In the fall, lower the cutting height back to about 2 inches. Mow right into late fall. If tall grass is allowed to go dormant over winter, it may matt down under the snow and die.

An ordinary side or rear discharge mower is really all you need as long as you mow your lawn on a regular basis.



Mowers

Most home owners use some type of rotary mower while some use a reel-type mower. No matter what kind of mower you use, the most important point to remember is to keep the blade sharp. A dull blade frays and beats the grass tips. If the lawn has a whitish cast after you mow, check the grass tips. If they are white and feathered out, sharpen the mower blades.

The blades of a reel mower tend to be self-sharpening and will give a clean cut for a longer time between sharpening.

Mulching mowers are a relatively new trend in lawn mowing, replacing the more traditional bagging mowers. Most mulching mowers have a specially designed cutting chamber with a modified blade. These modifications are aimed at chopping clippings more finely and blowing them down into the turf. Conversion kits also are available for many existing lawn mowers sold during the last few years.

While mulching mowers may be a good investment, they are not a necessity. Any lawn mower, if properly maintained and operated, can be used to return or "mulch" clippings back into the lawn. As long as the grass is mowed frequently enough, the blade is sharp, the grass is dry, and the mower is run at full speed, clippings should be fine enough to quickly filter into the turf and decompose.

Mulching mowers often do leave the turf with fewer clippings visible on the surface. However, even with a regular mower, clippings will filter into the turf in a few days.

Clippings . . .

If proper lawn maintenance and cultural practices are followed, it is seldom necessary to remove grass clippings. However, it is advised to remove clippings when diseases or weed seeds are present, when the lawn is heavily fertilized or watered, or when you have cut more than a third of the height.

Grass clippings are primarily composed of water and have a high nitrogen content. This makes clippings readily decomposable. Furthermore, clippings contribute very little to thatch buildup in the lawn. A layer of dry and decomposing clippings may be visible on the soil surface, but this is not thatch. (See thatch removal.)

It is wise to collect the clippings early in the spring and again in the fall when tree leaves are mixed in. It is not necessary to remove clippings the rest of the season if the grass is mowed properly and regularly.

Fertilizing . . .

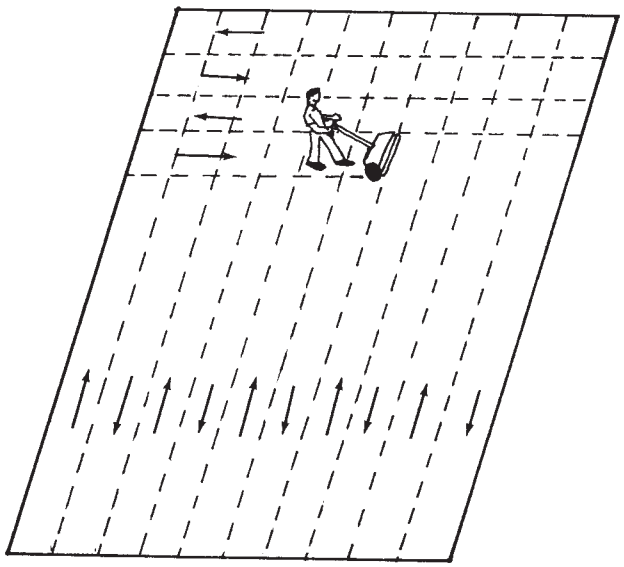
The best fertilizer program is based on complete soil testing, grass species and variety, and the type of use the lawn gets. Your county Extension agent can help you with this program.

A complete fertilizer contains nitrogen, phosphorous, and potassium. While lawn grasses need all of these elements, most home lawns are seldom deficient in phosphorus or potassium and require only nitrogen applications. A fertilizer high in nitrogen and low in phosphorous and potassium is recommended for the home lawn.

Most common varieties of Kentucky bluegrass can utilize about 2 lbs of actual nitrogen per 1,000 square feet during the growing season. If grass clippings are removed, an additional 1 lb of nitrogen may be needed. In the fall when it is cool, grass leaf growth decreases but root growth is still active, so fall is the best time to apply most of the lawn's fertilizer needs. Generally, about two-thirds of a lawn's nitrogen requirement should be applied in the fall.

Apply 1 lb of actual nitrogen per 1,000 square feet in the fall during mid September and another 1 lb in the spring between May 1 and May 15. Avoid fertilizing too early in the spring since this can encourage premature growth when the lawn may still be vulnerable to frost injury. The best time to apply an additional pound is later in the fall, during mid to late October.

The best use of fertilizer comes when you make two passes, the second at right angles to the first. Calibrate the spreader to apply half the recommended rate each direction. Don't succumb to the "more is better" belief, or your lawn will burn. Close spreader at turns and don't overlap.



Nitrogen forms

Quickly available or soluble forms (ammonium sulfate, ammonium nitrate, or urea) are water soluble and are immediately available for plant use. Applying this type of fertilizer results in a rapid flush of growth. However, quickly available nitrogen may be depleted rapidly (in 3 to 6 weeks) during heavy rains or frequent irrigation. Frequent, light nitrogen applications may be necessary for relatively uniform growth.

Quickly available forms of nitrogen are unsuitable for sandy soils and areas near ponds, streams or lakes, since they are more prone to leaching.

Slowly available forms release their nitrogen over a relatively long period of time. They depend on soil bacteria or weather to decompose the material and transform the resultant compounds into nitrogen forms available to the plant. With these materials, higher application rates at less frequent intervals are possible. Slow release forms are better suited to sandy soil since they are more resistant to leaching.

There are two basic types of slow-release nitrogen. Natural organic materials include activated or processed sludge, animal and vegetable tankage, compost, and seedmeals. Rate of breakdown of these materials varies widely as they differ in chemical composition. Urea formaldehyde or ureaform compounds and sulfur-coated urea are synthetic compounds that act like organic materials. A small amount of nitrogen is constantly released over a relatively long time.

A complete fertilizer (having a composition ratio of around 5-1-1) contains nitrogen, phosphate, and potash. If it contains a quick-release source of nitrogen, apply no more than 1 lb of actual nitrogen per 1,000 square feet in fall and late spring. If the nitrogen is a slow release form or a combination of forms, you can apply up to 1 1/2 lb of actual nitrogen per 1,000 square feet in the fall and spring. However, more frequent, lighter applications will provide best results.

A number of "weed 'n feed" products are available. These incorporate a fertilizer with either a broadleaf killer or weed preventor, primarily aimed at controlling crabgrass. These products generally have the proper proportions of nitrogen, phosphorous, and potassium. However, the rate and timing of the nitrogen application, which accompanies the herbicide application, may not be as desirable as applying the fertilizer and herbicide separately. The best time to effectively kill a particular weed may not coincide with the best timing of the fertilizer application. Likewise, in order to get a good kill, more fertilizer may be applied than is needed by the lawn, especially if fertilizer was already applied earlier.

For uniform spreading, apply the fertilizer in two directions, the second at right angles to the first. Calibrate the fertilizer spreader so that one half the total amount is applied in each direction.

To avoid fertilizer burn, do not apply more than the recommended rate and do not overlap. Apply fertilizer when turf is dry and the temperature is cool. Water after fertilizing. Be careful not to apply excess fertilizer when turning around at the edges of the lawn. Sweep up spilled fertilizer and reapply to the lawn.

Liquid vs. Dry Fertilizer

There really is no distinct advantage to the lawn to use a liquid or dry fertilizer formulation. The major difference lies in how the fertilizer is applied. Most home owners have access to either a drop or rotary spreader, so dry formulations generally are best. Liquid formulations may be easier to apply more evenly and with less noticeable problems with overlap, but most home owners lack the equipment to adequately fertilize a large home lawn. Hose end applicators usually have the capacity to cover only a small area. Whichever formulation is used, the lawn should be irrigated after application.

Fertilizer spreaders

There are several types of fertilizer spreaders. The most popular type drops fertilizer through the bottom of the spreader, in a path as wide as the spreader. While this spreader accurately places the fertilizer on the lawn, it is difficult to attain the proper degree of overlap. Drop spreaders are very useful for applications along paving or near streams or lakes.

The other major type of spreader applies fertilizer with a rotary action. These spreaders work well for large open areas and easily delivers the proper amount of overlap. Rotary spreaders may be unsuitable for use along sidewalks and driveways and should not be used near streams or ponds.

Hand spreading of fertilizer is not recommended since distribution will not be uniform. If improperly applied, lawn fertilizers, especially quick release types, can kill grass plants and cause non-uniform growth patterns in the lawn.

Watering . . .

Start watering as soon as symptoms of moisture stress appear. There are several indications you can use to determine irrigation timing. The lawn needs watering if footprints remain for a long time in the grass after walking on it or if dark bluish-green spots appear in the lawn. Another method involves keeping track of rainfall. If less than 1 to 1 1/4" of rain or irrigation is applied in one week, additional watering may be required.

A perfect watering timetable doesn't exist. One sign the lawn is already in water stress is a lingering row of depressions where you have walked.

There is no single guideline you can use for a watering schedule. Generally, a lawn will require 1 to 1 1/4 inches of water every 7 to 10 days depending on the soil, variety of grass, season, height of cut, and other factors. The primary aim is to moisten the root zone area, down to 6 to 12 inches deep. You can place a few empty cans in the area to be sprinkled and measure the amount of water applied in a given time. Check to see how deeply the soil has been moistened. Insert a shovel or trowel into the soil and pull it back to allow examination of the soil. This will be a guide for how long you should leave the sprinkler in a given area to apply a certain amount of water or moisten the soil to a certain depth.

Wait between waterings as long as possible without allowing the root zone soil to dry out. More water should be applied under trees to allow for their competition for the water. This will encourage a deeper root system and encourage drought resistance. Frequent shallow watering encourages a shallow root system, which makes the grass susceptible to heat, drought, and winter injury.

Automatic sprinkler systems are commonly used by many homeowners. While an automatic system makes watering more convenient, it may waste water and may not apply the right amount of water when the turf really needs it. If possible, adjust the system to apply at least 3/4" at one time, 1" or more would be ideal. Then, only apply that amount of water when it is needed.

Frequently, automatic systems are set to apply 1/4 to 1/3" of water every 2 to 3 days. While this may appear to keep the lawn green, it encourages shallow rooting, thatch development and inefficient use of water during periods of rainy weather.

If it is not possible to apply enough water to the lawn during the summer months, it is better not to water at all. The grasses will go dormant until rains come or water is available. Allowing the grass to go dormant during dry weather is less damaging to the lawn than improper or infrequent watering.

It is best to water the lawn in the morning or late afternoon if necessary. Watering late in the evening can encourage disease problems because the leaf blades remain wet overnight. Watering during the heat of the day can result in up to a 60% loss of water to evaporation. Also, wind is usually reduced in the morning making precise water placement easier.

Controlling weeds . . .

Broadleaved weeds

Most broadleaved weeds can be controlled easily in the fall after the first frost. Weeds are still growing and actively storing carbohydrates in their crown and root system for winter. When herbicides are applied, they are rapidly translocated throughout the plant and are very effective. Fall applications are also safer for garden vegetables and bedding plants. When broadleaved weeds, like dandelions are killed in the fall, few weeds survive the winter, so few weeds will be blooming in the lawn the next spring. Fall applications can break the growth cycle of the weeds.

Early spring or summer treatment is often less effective and does little to reduce the production of weed seed which will germinate to provide the weed crop for the next year. Consequently, weeds like dandelions are always present in the lawn in the spring, bloom, and reseed themselves before they can be killed by spring applied herbicides.

Herbicides are effective on many weeds, including dandelion, chickweed, and prostrate knotweed. Use low volatile formulations to avoid drift to sensitive plants. Keep sprays away from established shrubs, flowers, and vegetable gardens. Follow label directions.

Creeping Charlie (ground ivy), chickweed, prostrate knotweed, and creeping bellflower are less sensitive to some common herbicides. Consequently, stronger formulations are often used, which may cause damage to trees and shrubs if they are applied over their roots. Check the label for proper application procedures.

Tough perennial weeds like ground ivy, creeping bellflower, and clover are very difficult to control in the spring, especially with "weed 'n feed" materials. Two fall applications, made after the first frost, at a 10 to 14 day interval is very effective in controlling most weeds, and is the best way to attack the tougher perennial

weeds. Furthermore, if fall applications are made, a spring application is generally not needed.

Operate sprayers at low pressure and set for a coarse spray to reduce droplet drift. Use sprinkling cans to produce coarse droplets for small area treatments. Do not use the same watering can or sprayer to water plants or apply insecticides since spray residue may damage desirable plants. Spray only when winds are light and rain is not expected.

Some broadleaved herbicides are included in fertilizer-herbicide combination granules. These will control only emerged broadleaves. The granules should be applied to wet foliage so the herbicide will be released on the weed leaf. While this may be a convenient method of application, these products often are less effective and can cause over-application of fertilizers.

Careless application of herbicides is worse than no control at all.

Perennial grassy weeds

There is no selective herbicide which will kill perennial grassy weeds such as creeping bentgrass, ryegrass, quackgrass, and bromegrass, without harming Kentucky bluegrass. Small infestations may be dug out. However, if infestations are widespread, a non-selective herbicide, that will kill everything, may have to be applied to obtain control. Wait 3 to 7 days and then prepare the area for reseeding. Always check the label for proper application rates and the required interval prior to reseeding.

Annual grassy weeds

Crabgrass is an annual grass that develops from seeds produced the previous year. It cannot be controlled quickly, or even in one growing season.

One key to success is to prevent crabgrass from setting seed. If you do this for several years, the viable seed supply in the soil will diminish to a point where it is no longer a serious threat to the lawn.

Pre-emergence herbicides are easy to apply and give good control. Some are available in combination with fertilizer in weed and feed products. Many of these are very effective if applied properly. Do not apply them too early in the season or control may run out before weed seeds germinate. Lilacs usually will be in full bloom about the time soil temperatures have warmed sufficiently to allow crabgrass seeds to begin to germinate.

If you are using crabgrass post-emergence herbicides on the growing plants, you may have to make several applications during the growing season. Post-emergence crabgrass killers are most effective if applied as early as possible. As the weeds mature, they become more resistant to control.

To help prevent future infestations from existing plants, rake the lawn to bring immature seed heads of crabgrass within the reach of the mower, and then mow. If the seed heads have matured, be sure to use a grass catcher on the mower. Dispose of this material in a non-lawn area, or you'll be creating trouble somewhere else.

Do not move the mower from an infected yard without washing out any seeds that may be present.

Crabgrass does not tolerate shade. A thick, dense turf cut 2 1/2 to 3 inches or longer offers shady conditions that tend to retard crabgrass growth.

If nothing else, you learn patience and self control from fighting weeds. Even though dandelions and other weeds maybe more prominent in the spring, the best time to control them is in the fall. When spraying, the bigger the droplet, the better.

Controlling insects . . .

White grubs and sod webworms are the most common insects of turfgrass in South Dakota. Consult your county Extension agent for assistance in identifying these pests and to obtain current, specific information on control methods.

White grubs are the young forms of various beetles. They feed on grass roots from early spring to late fall. Your county Extension agent has the latest recommendations for control.

Controlling diseases . . .

Common fungus diseases of lawns are brown patch, leafspots, rust, and fairy rings. Prevention is the best control. A healthy turf will generally be less susceptible to diseases and will be better able to survive disease infestations.

Special and broad-spectrum fungicides are available at garden supply centers if needed. Use only approved materials and products according to directions on the label.

Some grass varieties may be less susceptible to certain diseases than others. Select the best varieties for your lawn when establishing a lawn.

Seeding bare spots . . .

Early fall (late August) is the best time to seed bare spots. Use the same mixture of grass prevalent in the rest of the lawn. It is usually not necessary to reseed unless the bare areas are at least 1 square foot. A vigorous turf should fill in smaller areas.

Before seeding, loosen the soil to a depth of 3 to 4 inches. Spread 1 tablespoon of 12-12-12 fertilizer per square foot on the surface and mix thoroughly into the soil. After leveling the soil, spread the seed liberally and work into the soil by lightly dragging with an inverted leaf rake. Give it a light watering as needed to keep the surface soil moist for a period of 3 to 4 weeks or until germination is complete and the seedlings are established.

For shaded bare spots, use a mixture of red fescue and Kentucky bluegrass (50-50) at the rate of 1 teaspoon of the mixture per square foot. For smaller bare spots, a piece of sod from an inconspicuous area of the lawn is better than reseeding.

Aerating . . .

Compaction of the lawn soil is very detrimental to the natural growth of turfgrasses as well as trees and shrubs that may be in the yard. Weeds such as prostrate knotweed, which can tolerate soil compaction, will often out-compete turf in areas that are compacted. Compaction can be relieved with special aeration equipment in the spring or early fall. The soil should be fairly moist for best results. Aeration improves air and water movement and stimulates bacterial decomposition of thatch. Use an aerator that removes small cores of

Several different conditions can cause spots like this, but this one is due to brown patch, a fungus disease. Excess thatch and too much nitrogen favor the disease. As in all fungus problems, prevention in the form of good cultural practices is the best control measure you can take.

soil. After coring, the cores of soil can be removed or allowed to deteriorate. They also can be broken up by dragging the area with a piece of chain link fence pulled behind a garden tractor. Aerators that only poke holes into the soil do little to reduce compaction and may actually make the problem worse. In severe cases the compacted soil may need to be drastically modified or replaced.

Removing thatch . . .

Thatch is a layer of partially decomposed, stems and roots at the soil surface. A small amount of thatch, less than 1/2" thick, is normal and desirable in the lawn. However, if grass growth is excessive, do to improper fertilization, watering and mowing, more thatch will develop than can decompose and will build up over a period of years. Excessive thatch is a problem, but it's also often a symptom of improper lawn care practices.

Excessive thatch decreases the vigor of turfgrasses by restricting the movement of air, water, fertilizer, and pesticides into the soil. It encourages disease attacks and elevates the crown of the grass, which makes it susceptible to winter desiccation.

Thatch is not readily visible from the surface. Before grass greens up in the spring the old dead grass blades are visible on the surface of the lawn. It is important to remember that this is not thatch! Home owners often remove this dead material with the understanding that they now have dethatched their lawns. In fact, the lawn may not really have had a thatch problem or a real thatch problem still may need to be treated.

Lawns with a thatch problem often seem spongy when walked on. To examine the thatch, you need to cut out a small area of turf and soil to see how thick the thatch layer actually is. The thatch will be often be lighter in color, have a fibrous appearance, and will be located above the darker soil and just below the bases of grass plants.

Machines for mechanical removal of the thatch are available. Vertical mowers, sometimes called power rakes, are the most effective means of removing thatch. Spinning blades cut into the turf and lift the thatch to the surface for removal. Do not set the machine so low that it rips out grass plants. "Dethatcher" attachments for lawn mowers may lift up dead grass clippings at the surface but are not effective for removing thatch.

Thatch removal can be done in spring, but it is best done in the fall when grass growing conditions are best for rapid recovery. It is best not to try removing all the thatch in one pass.

Thatch can develop in a lawn when more vegetative growth is produced than can be decomposed. Thatch is not visible from the surface; you must cut down into the soil to see it.

Treating iron chlorosis . . .

Lawns may develop a sickly yellow-green color, especially on alkaline soils. Symptoms are often more pronounced during cool wet weather and in low areas in the lawn. The yellowed area may be quite large or appear as smaller patches. Usually, color and vigor can be restored by applying iron. You can use ferrous sulfate or iron chelate. Prepared products are available. They should be used according to label instructions. Dryer, warmer weather, following a prolonged rainy period, will often reduce the signs of iron chlorosis too.

Renovating . . .

If the lawn is old and in poor condition and has excessive weeds, the problems may be solved by renovating it with a vertical mower and power rake. Collect the trash and then overseed with desired grass or grasses. Keep the soil moist until the seedlings are established. This can be done in fall, which is preferred, or in spring. Renovating may require more than one year for satisfactory results.

While reseeding or overseeding may improve the appearance of a poor lawn, the real cause of the deterioration may not have been solved. Carefully assess the problem and make modifications to the site before renovating. Also, be sure to select an appropriate grass species for the site to improve chances for success.

This lawn was allowed to get too tall before mowing. Do not remove more than a third of the height at any one time. The most attractive lawn is one that is mowed more often than you may really want to. This lawn must now be raked. It's already been weakened by cutting too much growth, and mats of clippings will continune deterioration.

Raking . . .

Generally, two rakings a year are sufficient. Rake the lawn in the fall to prevent a smothering layer of tree leaves. Then rake again before the first mowing in spring to help remove old dead grass blades and improve air and light penetration into the turf.
Always use a lawn rake, not an iron garden rake, which can seriously damage grass roots. For the same reason, the use of a power rake more than once a year is not recommended. When a power rake is used, be sure there are at least 6 weeks of good growing weather for the grass to recover.

For a lawn to be proud of . . .

- Plant recommended species and varieties of grasses for the particular site.
- Keep the lawn mowed at a proper height.
- Collect heavy clippings to avoid smothering or shading the turf.
- Mow frequently so that too much leaf surface (less than a third of the total) is not removed at a time. Keep mower blades sharp.
- Maintain adequate soil moisture with infrequent, deep watering.
- Avoid watering late in the evening.
- Apply most of the lawn's recommended nitrogen in the fall to promote strong root growth.
- Do not over fertilize. This promotes fast, lush, but not sturdy, growth.
- Mow throughout the fall until the grass stops growing.

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